



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

pollen from stamens of all lengths develops readily on the stigmas of all lengths of pistil, provided the stigmas are of the well formed sort. From this and anatomical evidence he concludes that *Epigaea* is not truly heterostylous. With regard to dioecism, it was found that pollen develops readily upon the well formed stigmas, but not at all upon the poorly formed sort, although ovules with normal embryo sacs are present in the ovaries. Thus the flowers with small stigmas are apparently perfect but are functionally male, and the species is functionally dioecious. The author has also recorded some interesting facts concerning the development of the seed. The embryo sac is of the usual eight-nucellate type, and is surrounded by a layer of "tapetum" except at the much prolonged micropylar end. There is no period of free nuclear division in the development of the endosperm, transverse walls at once separating the sac into four chambers, in all of which the further cell divisions occur rapidly. When the endosperm is well developed it produces at each end a knoblike haustorial outgrowth which extends into the tissue of the integument.

—LESTER W. SHARP.

Crown-gall.—In their account of the crown-gall of plants, SMITH, BROWN, and TOWNSEND¹² described the occurrence of secondary galls originating at some distance from primary galls which had been produced by direct infection, and suggested that the secondary galls arose in some way from the primary galls, although the mode of origin was not clear at that time. This problem has now been solved by a histological study of the crown-gall by SMITH, BROWN, and McCULLOCH.¹³ They find that the secondary galls arise from strands of tissue which originate from the primary galls and make their way along the stem or leaf, usually in the region of the primary wood. The tumor strand apparently does not absorb the cells in its path, but makes its way by crushing and flattening them. Secondary galls arise at various points along the tumor strand. A cross-section of a secondary gall developing in the leaf from a strand arising from a primary gall in the stem shows a stem structure with the woody elements greatly developed and regularly arranged like the secondary wood of a stem. If, however, a primary gall develops in the leaf as a result of direct inoculation, its structure is irregular. The tissue consists of an enormous development of parenchyma intermixed with irregular masses of tracheids. There is no distinct differentiation of parts as in the secondary galls arising from stem galls. The similarity which has been formerly pointed out between these plant galls and animal tumors leads the writers to consider the crown-gall apart from all other plant diseases, and to place it in the category of true tumors.—H. HASSELBRING.

¹² Rev. Bot. GAZ. 52: 75. 1911.

¹³ SMITH, ERWIN F., BROWN, NELLIE E., and McCULLOCH, LUCIA, The structure and development of crown gall; a plant cancer. Bur. Pl. Ind. Bull. 255. pp. 60. figs. 2. pls. 109. 1912.